competitors, it seems likely that such rates are at least somewhat above any zone of reasonableness.

Yet many electric utilities demand even higher rates for the use of their conduits. Although some electric utility conduit rates cluster in the range of $2.00 to $5.00 per foot per year, such rates are more commonly charged by municipal electric departments than by the investor-owned utilities that are subject to § 224. Several electric utilities demand conduit rates of $7.00 to $10.00 per foot per year, just above the high end of BOC rates, but electric utility conduit rates in the range of $15.00 to $20.00 per foot per year are not uncommon. ICG has even encountered electric utilities seeking the equivalent of $25.00 or more per foot per year in cash and in-kind compensation for the use of space in their ducts.

Cost-based rates for conduit access are critically important to the ability of facilities-based telecommunications carriers to make economically sound decisions concerning where to deploy their facilities. In many densely developed areas, electric utilities and incumbent LECs have available duct space or duct space that could be made available by installing innerduct, yet the construction of additional conduits is not feasible. Even where new construction is possible, new entrants often do not require sufficient duct space to justify the cost of construction because of the transmission capacity provided by fiber optic cables. Although ICG supports the concept of negotiated rates, negotiation can work only in environments where utilities' vastly superior bargaining power is constrained. The Commission cannot simply stand aside and let utilities demand excessive or discriminatory rates for the use of their conduits.

Utilities may legitimately be concerned that if they permit telecommunications carriers to install facilities in their ducts and conduits they may later have insufficient space for their own facilities. In many cases, such concerns can be adequately addressed by installing innerduct, as the Whitepaper Utilities at least implicitly concede. The installation of innerduct generally would be an upgrade governed by the cost recovery principles of the Interconnection Order, but it may not be unreasonable in some cases for a utility to require a telecommunications carrier to pay the cost to install innerduct at the time it installs its facilities, rather than force the utility to incur a higher cost doing so later when more space is actually required.

In order to mitigate such concerns without abrogating its responsibility to ensure that rates for the use of LEC and electric utility ducts and conduits are reasonable and nondiscriminatory, the Commission should proceed to adopt a formula or other methodology for determining the reasonableness of such rates, but should permit some flexibility in the determination of the costs that are taken into account. In particular, it may be appropriate, at least in high-density areas, to base such rates on current costs, rather than embedded accounting costs. Particularly in larger cities, a great deal of utility conduit is relatively old, and the book cost is not representative of the cost a utility may eventually incur to construct additional duct space for its own requirements. As noted above, conduit rates based upon § 224(d) and embedded costs are well below those charged by any utilities in the absence of regulation and may in fact be unreasonably low. At the same time, electric utility conduit rates that significantly exceed those charged in

the same markets by incumbent LECs are unlikely to be reasonable, and the Commission needs to adopt a standard by which their reasonableness may be judged.

IX. Determination of Usable and Unusable Duct Space

The Commission seeks comment on the distribution of usable and unusable space within conduits or ducts and how the determination for such space is made. The Commission seeks comment on what portions of ducts or conduits are unusable and proposes that a presumptive ratio of usable ducts to maintenance ducts be adopted to establish the amount of unusable space. The Commission proposes a "half-duct methodology" under which it would be presumed that a CATV system or telecommunications carrier uses one-half of a duct and proposes that each entity using one-half duct be counted as a separate attaching entity for purposes of allocating unusable space costs.

The Whitepaper Utilities contend that the concepts of usable and unusable space, the number of parties present, or the space occupied by each have no meaning in the conduit or duct environment. For example, although a duct may have a certain amount of space, when multiple parties seek access to the duct, it may only be possible to accommodate access if innerduct is installed, and ducts may only be divided a finite number of times. They also note that duct and conduit issues vary greatly among various geographical regions and between urban and rural areas.

ICG generally supports the Commission's proposal to allocate the cost of ducts and conduits between usable and unusable space based upon the ratio of usable ducts to maintenance ducts with two qualifications. First, maintenance ducts should be deemed

to be unusable space only if they are available for the temporary use of any party. Maintenance ducts that are reserved for the duct owner or another specific user of a duct bank should be considered usable space occupied by the party for whom they are reserved. Second, when electrical conductors are installed in ducts it is often necessary to leave some ducts unoccupied in order to prevent the buildup of excessive heat. Although it is sometimes possible to place communications cables in such ducts, any ducts that must remain entirely empty in order to prevent excessive heat should also be considered unusable space.

Although there is some truth to the Whitepaper Utilities' assertions about duct space, ducts are fundamentally no different from poles in this regard. While there is a certain amount of space available on a pole, when multiple parties seek access to a pole it may be possible to accommodate them only by replacing the pole with a taller one, and there are practical limits on the height of poles.[28] Moreover, there are significant differences in pole height and the demand for pole space in different geographic regions and between urban and rural areas. The fact that such issues exist with regard to ducts as well does not justify a failure to adopt a standard formula or methodology for determining rates for the use of ducts and conduits, any more than it would justify an *ad hoc* approach to setting rates for the use of poles.

The Commission's proposed half-duct methodology, however, seems outdated or simply incorrect. As the Whitepaper Utilities note, innerduct is commonly installed in

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[28] For example, pole heights may be limited by zoning ordinances or other governmental controls or by the cost or unavailability of equipment for working on poles greater than a given height.

ducts, especially in areas of high demand, making it possible to install from three to six cables in each four to five inch duct. Because of the widespread use of innerduct it seems likely that each telecommunications cable in a duct generally occupies an average of one-fourth of a duct, not one-half, at least in densely developed areas. While it may be advisable for the Commission to administer a survey in order to determine the average number of cables in each duct, it should not presume that each telecommunications cable occupies one-half of a duct. In ICG's experience, one-fourth of a duct seems appropriate in densely developed areas, while cables in many suburban and most rural areas may occupy an entire duct.

The Commission's proposal to count each entity occupying a duct as a separate attaching entity for each one-half duct (or one-fourth duct, or entire duct, for that matter) that it occupies when apportioning the cost of unusable space is also misguided. Just as with poles, § 224(e)(2) requires an equal apportionment of two-thirds of the cost of unusable duct space among all attaching entities. Each party that actually installs one or more cables in a duct or duct bank should be counted as a single attaching entity, regardless of the number of cables installed or the amount of duct space occupied. Counting each party as a separate attaching entity for each one-half duct it occupied would effectively apportion the total cost of a duct bank based upon occupation of usable space as under § 224(d).

Because of the greater variability of duct configurations as compared to facilities installed on poles, it may not be appropriate for the Commission to adopt specific presumptive ratios of usable to unusable space or specific presumptions concerning the

amount of space occupied or the number of attaching entities. For example, a single duct or pair of ducts in the median of a major highway, connecting widely separated portions of a metropolitan area, would likely have a very different ratio of usable to unusable space than a bank of twelve ducts in a densely developed business district. Although it is critically important for the Commission to adopt a clear and precise methodology for determining the appropriate rate for telecommunications carriers' use of space in utilities' ducts, it may be better to permit parties to apply that methodology to specific duct configurations on a case-by-case basis rather than attempt to develop a presumptive average ratio of usable to unusable space. Especially if duct and conduit lease rates are based upon current costs rather than embedded accounting cost, it may not be as difficult to develop rates based upon the cost of specific sections of duct as it would be to develop a set of presumptions that would be valid for all duct configurations.

X. Conclusion

The Commission should adopt policies for rates for telecommunications carriers' use of utility poles, ducts, conduits and rights-of-way that are based upon generally accepted engineering principles and promote economically efficient use of pole and duct space.

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